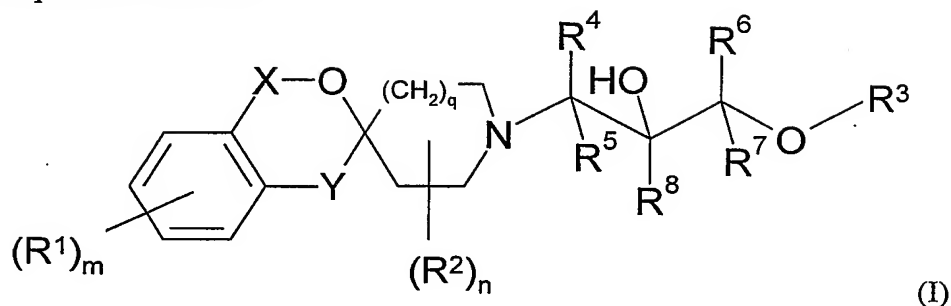


## CLAIMS

1. A compound of formula



5 wherein

m is 0, 1, 2, 3 or 4;

each  $R^1$  independently represents halogen, cyano, hydroxyl,  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  haloalkyl,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkylsulphonyl or sulphonamido;

10 X represents a bond or  $-CH_2-$  and Y represents a bond or  $-CH_2-$ , provided that X and Y do not both simultaneously represent a bond or  $-CH_2-$ ;

n is 0, 1 or 2;

each  $R^2$  independently represents halogen,  $C_1$ - $C_6$  alkyl or  $C_1$ - $C_6$  haloalkyl ;

q is 0 or 1;

15  $R^3$  represents a saturated or unsaturated 5- to 10-membered ring system other than phenyl, which ring system may comprise at least one ring heteroatom selected from nitrogen, oxygen and sulphur, the ring system being optionally substituted with at least one substituent selected from halogen, cyano, oxo, nitro, hydroxyl, carboxyl,  $-C(O)H$ ,  $-NR^9R^{10}$ ,  $-C(O)NR^{11}R^{12}$ ,  $-NHC(O)R^{13}$ ,  $-NHSO_2R^{14}$ ,  $-SO_2NR^{15}R^{16}$ ,  $-NHC(O)NR^{17}R^{18}$ ,  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkylthio,  $C_1$ - $C_6$  alkylsulphonyl,  $C_1$ - $C_6$  haloalkyl,  $C_1$ - $C_6$  alkoxy $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkylcarbonyl, phenylcarbonyl,  $C_3$ - $C_6$  cycloalkyl,  $C_3$ - $C_6$  cycloalkylmethyl and a saturated or unsaturated 5- to 6-membered heterocyclic ring comprising at least one ring heteroatom selected from nitrogen, oxygen and sulphur;

20  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$  and  $R^8$  each independently represent hydrogen, halogen,  $C_1$ - $C_6$  alkyl or  $C_1$ - $C_6$  haloalkyl ;

25

$R^9$  and  $R^{10}$  each independently represent hydrogen,  $C_1$ - $C_6$  alkyl or  $C_3$ - $C_6$  cycloalkyl;  
 $R^{11}$  and  $R^{12}$  each independently represent hydrogen,  $C_1$ - $C_6$  alkyl or  $C_3$ - $C_6$  cycloalkyl,  
or  $R^{11}$  and  $R^{12}$  together with the nitrogen atom to which they are attached form a 4- to 7-  
membered saturated heterocyclic ring which may be optionally substituted with at least one

5 substituent selected from hydroxyl;

$R^{13}$  and  $R^{14}$  each independently represent  $C_1$ - $C_6$  alkyl,  $C_3$ - $C_6$  cycloalkyl or  
 $C_1$ - $C_4$  haloalkyl;

$R^{15}$  and  $R^{16}$  each independently represent hydrogen,  $C_1$ - $C_6$  alkyl or  $C_3$ - $C_6$  cycloalkyl,  
or  $R^{15}$  and  $R^{16}$  together with the nitrogen atom to which they are attached form a 4- to 7-  
10 membered saturated heterocyclic ring which may be optionally substituted with at least one  
substituent selected from hydroxyl; and

$R^{17}$  and  $R^{18}$  each independently represent hydrogen,  $C_1$ - $C_6$  alkyl or  $C_3$ - $C_6$  cycloalkyl,  
or  $R^{17}$  and  $R^{18}$  together with the nitrogen atom to which they are attached form a 4- to 7-  
membered saturated heterocyclic ring which may be optionally substituted with at least one  
15 substituent selected from hydroxyl;

or a pharmaceutically acceptable salt or solvate thereof.

2. A compound according to claim 1, wherein X represents a bond and Y represents  
-CH<sub>2</sub>-.

20

3. A compound according to claim 1 or claim 2, wherein q is 1.

4. A compound according to any one of claims 1 to 3, wherein m is 1 and  $R^1$  represents  
halogen.

25

5. A compound according to any one of claims 1 to 4, wherein  $R^3$  represents an  
unsaturated 6- to 10-membered ring system other than phenyl, which ring system may  
comprise one or two ring heteroatoms independently selected from nitrogen and oxygen, or  
two ring heteroatoms consisting of nitrogen and sulphur, the ring system being optionally  
30 substituted with one, two or three substituents independently selected from halogen, oxo,

nitro, -NH<sub>2</sub>, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkylthio, C<sub>1</sub>-C<sub>4</sub> haloalkyl, C<sub>1</sub>-C<sub>4</sub> alkoxyC<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl, C<sub>3</sub>-C<sub>6</sub> cycloalkylmethyl, -C(O)NR<sup>11</sup>R<sup>12</sup>, carboxyl, and a saturated or unsaturated 5- to 6-membered heterocyclic ring comprising one or two ring heteroatoms independently selected from nitrogen and sulphur.

5

6. A compound according to claim 5, wherein the unsaturated 6- to 10-membered ring system is selected from quinolinyl, 1,2-dihydroquinolinyl, 1,2,3,4-tetrahydroquinolinyl, 2,3-dihydrobenzoxazinyl, 1,2,3,4-tetrahydroquinazolinyl, naphthyl, pyridinyl, benzofuranyl, benzothiazolyl, pyrimidinyl, isoquinolinyl and quinazolinyl.

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7. A compound according to any one of claims 1 to 6, wherein R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup> and R<sup>8</sup> each independently represent hydrogen.

8. A compound according to claim 1 selected from:

15

8-{[(2*S*)-3-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}-3,4-dihydroquinolin-2(1*H*)-one,

8-{[(2*S*)-3-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}quinolin-2(1*H*)-one,

20

5-{[(2*S*)-3-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}-2*H*-1,4-benzoxazin-3(4*H*)-one,

8-{[(2*S*)-3-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}quinazoline-2,4(1*H*,3*H*)-dione trifluoroacetate (salt),

(2*S*)-1-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(1-naphthyloxy)propan-2-ol trifluoroacetate (salt),

25

(2*S*)-1-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-[(6-methyl-2-nitropyridin-3-yl)oxy]propan-2-ol trifluoroacetate (salt),

1-(6-{[(2*S*)-3-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}-4,7-dimethoxy-1-benzofuran-5-yl)ethanone trifluoroacetate (salt),

30

(2*S*)-1-[(6-Chloropyridin-2-yl)oxy]-3-(5-chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propan-2-ol trifluoroacetate (salt),

(2*S*)-1-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-{[7-(trifluoromethyl)quinolin-4-yl]oxy}propan-2-ol trifluoroacetate (salt),

(2*S*)-1-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-[(2-iodo-6-methylpyridin-3-yl)oxy]propan-2-ol trifluoroacetate (salt),

5 (2*S*)-1-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-{[5-(cyclopropylmethyl)-6-methyl-2-pyridin-4-ylpyrimidin-4-yl]oxy}propan-2-ol trifluoroacetate (salt),

(2*S*)-1-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(quinolin-8-yloxy)propan-2-ol trifluoroacetate (salt),

10 (2*S*)-1-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(isoquinolin-5-yloxy)propan-2-ol trifluoroacetate (salt),

(2*S*)-1-[(6-Bromoquinazolin-4-yl)oxy]-3-(5-chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propan-2-ol trifluoroacetate (salt),

15 (2*S*)-1-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-{[2-(2-thienyl)-6-(trifluoromethyl)pyrimidin-4-yl]oxy}propan-2-ol trifluoroacetate (salt),

(2*S*)-1-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-(quinolin-5-yloxy)propan-2-ol trifluoroacetate (salt),

(2*S*)-1-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-[(2,3,4-trichloro-1-naphthyl)oxy]propan-2-ol trifluoroacetate (salt),

20 (2*S*)-1-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-{[1-(1,3-dithiolan-2-yl)-2-naphthyl]oxy}propan-2-ol trifluoroacetate (salt),

(2*S*)-1-{[5-Butyl-6-(methoxymethyl)-2-(methylthio)pyrimidin-4-yl]oxy}-3-(5-chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propan-2-ol trifluoroacetate (salt),

25 (2*S*)-1-[(2-Amino-1,3-benzothiazol-4-yl)oxy]-3-(5-chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)propan-2-ol,

(2*S*)-1-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-[(2-methyl-1,3-benzothiazol-4-yl)oxy]propan-2-ol,

(2*S*)-1-(5-chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-3-[(2-methyl-1-benzofuran-4-yl)oxy]propan-2-ol,

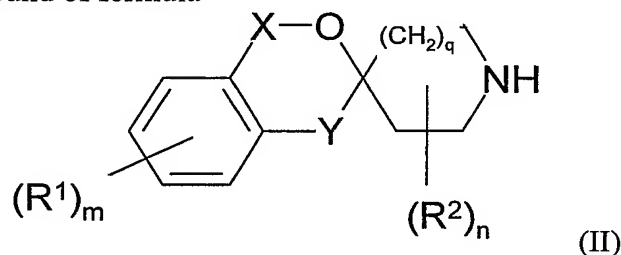
3-{[(2*S*)-3-(5-chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}isonicotinic acid,

3-{[(2*S*)-3-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}-*N*-methylisonicotinamide,

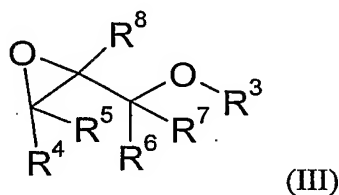
- 5 (3*S*)-1-(3-{[(2*S*)-3-(5-Chloro-1'*H*,3*H*-spiro[1-benzofuran-2,4'-piperidin]-1'-yl)-2-hydroxypropyl]oxy}isonicotinoyl)pyrrolidin-3-ol,  
and pharmaceutically acceptable salts and solvates of any one thereof.

9. A process for the preparation of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as defined in claim 1 which comprises,

(a) reacting a compound of formula



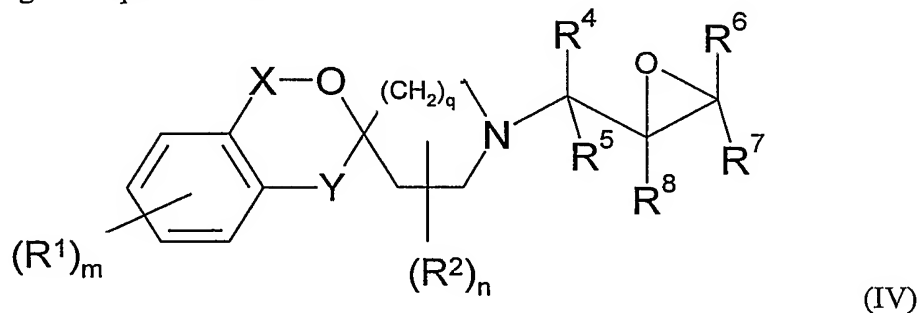
wherein  $m$ ,  $R^1$ ,  $n$ ,  $R^2$ ,  $q$ ,  $X$  and  $Y$  are as defined in formula (I), with a compound of formula



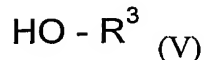
15

wherein  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$  and  $R^8$  are as defined in formula (I); or

(b) reacting a compound of formula



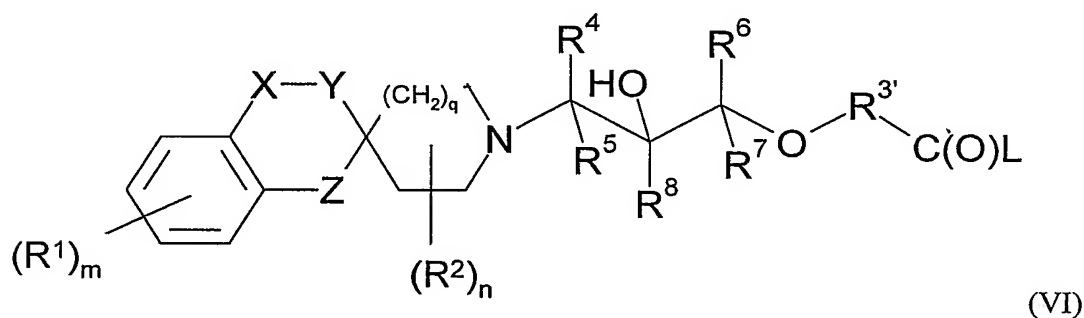
wherein  $m$ ,  $R^1$ ,  $n$ ,  $R^2$ ,  $q$ ,  $X$ ,  $Y$ ,  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$  and  $R^8$  are as defined in formula (I), with a compound of formula



wherein  $R^3$  is as defined in formula (I), in the presence of a suitable base;

5

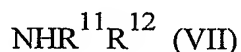
(c) when  $R^3$  is substituted with  $-C(O)NR^{11}R^{12}$ , reacting a compound of formula



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wherein  $L$  represents a leaving group (e.g. a hydroxyl group),  $R^{3'}$  is a saturated or unsaturated 5- to 10-membered ring system other than phenyl, which ring system may comprise at least one ring heteroatom selected from nitrogen, oxygen and sulphur, and  $m$ ,  $R^1$ ,  $n$ ,  $R^2$ ,  $q$ ,  $X$ ,  $Y$ ,  $Z$ ,  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$  and  $R^8$  are as defined in formula (I), with a compound

15 of formula (VII),



wherein  $R^{11}$  and  $R^{12}$  are as defined in formula (I), in the presence of a suitable coupling reagent;

20

and optionally after (a), (b) or (c) forming a pharmaceutically acceptable salt or solvate.

10. A pharmaceutical composition comprising a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 8 in association with a pharmaceutically acceptable adjuvant, diluent or carrier.
- 5 11. A process for the preparation of a pharmaceutical composition as claimed in claim 10 which comprises mixing a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 8 with a pharmaceutically acceptable adjuvant, diluent or carrier.
- 10 12. A compound of formula (I) or a pharmaceutically-acceptable salt or solvate thereof as claimed in any one of claims 1 to 8 for use in therapy.
13. Use of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 8 in the manufacture of a medicament for the  
15 treatment of human diseases or conditions in which modulation of chemokine receptor activity is beneficial.
14. Use of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 8 in the manufacture of a medicament for use  
20 in treating rheumatoid arthritis.
15. Use of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 8 in the manufacture of a medicament for use in treating chronic obstructive pulmonary disease.  
25
16. Use of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 8 in the manufacture of a medicament for use in treating asthma.

17. Use of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 8 in the manufacture of a medicament for use in treating multiple sclerosis.

5 18. A method of treating an inflammatory disease which comprises administering to a patient in need thereof a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 8.

10 19. A method of treating an airways disease which comprises administering to a patient in need thereof a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof as claimed in any one of claims 1 to 8.